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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,031	09/23/2003	Masaya Okita	Soyu C-6B	1821

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EXAMINER
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PIZIALI, JEFFREY J

ART UNIT	PAPER NUMBER
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2629

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/669,031	<b>Applicant(s)</b> OKITA, MASAYA	
	<b>Examiner</b> Jeff Piziali	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 3,4,7,10,12,15 and 20-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3,4,7,10,12,15 and 20-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/115,018.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed (on 5 September 2006) in this application after final rejection (mailed 2 March 2006). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5 September 2006 has been entered.

### ***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/115,018, filed on 14 July 1998.

### ***Oath/Declaration***

3. The 'Response' submitted 12 December 2005 amends paragraph [0001] of the instant specification to state that the instant application is a continuation-in-part of Application No. 09/801,098. A supplemental oath or declaration is required under 37 CFR 1.67. The new oath or declaration must properly identify the application of which it is to form a part, preferably by application number and filing date in the body of the oath or declaration. See MPEP §§ 602.01 and 602.02.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 3, 4, 7, 10, 12, 15, and 20-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

6. Independent claims 20, 22, 23, and 26 recite the subject matter of, "said nematic liquid crystal is not a chiral nematic liquid crystal." However, the instant specification nowhere so excludes chiral nematic liquid crystal. In fact, the specification teaches being applicable to "any conventional nematic liquid crystal" (see Page 3, Paragraph 11). At no point in the instant specification is the term "chiral" even present.

7. Remaining claims 3, 4, 7, 10, 12, 15, and 21, 24, 25, and 27-35 are rejected under 35 U.S.C. 112, first paragraph, as simply being dependent upon rejected base claims.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 3, 4, 7, 10, 12, 15, and 20-35 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by the applicant's own admission of prior art (see Figs. 2 & 3; Paragraphs 2-11; Paragraphs 19-20; Paragraphs 26-28; and Paragraphs 33-35 -- wherein Fig. 2 refers to the illustration as originally submitted in Application No. 09/801,098, aka US Patent Application Publication US 2001/0052885 A1).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3, 4, 7, 10, 12, 15, and 20-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 5,594,464) in view of Molsen et al (US 6,122,024 A). Note that claim order has been rearranged below to better reflect claim dependencies.

Regarding claim 20, Tanaka discloses a method for driving a nematic liquid crystal in liquid crystal display device comprising a nematic liquid crystal (see the Abstract), two electrodes [Fig. 28; C & S] sandwiching the nematic liquid crystal (see Column 21, Lines 10-41)

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and two polarizing plates sandwiching the two electrodes (see Column 10, Lines 19-22), consisting of the steps of: applying a first voltage [Fig. 2, 202] corresponding to image data to the liquid crystal during a first time period [i.e. one signal period] in a unit period [Fig.2;  $t_1$ ,  $t_0$ ,  $t_1$ ]; and applying a second voltage [Fig.2; 201] that does not correspond to image data to the liquid crystal during a second time period [Fig.2;  $t_1$  - (one signal period),  $t_0$  - (one signal period),  $t_1$  - (one signal period)] in the unit period, wherein the unit period consists of the first time period and the second time period, and the optical transmittance [Fig. 2; 204] of the nematic liquid crystal changes from an initial level corresponding to the second voltage to a level corresponding to image data during the first time period and changes from the level corresponding to image data to the initial level corresponding to the second voltage during the second time period (see Column 10, Lines 26-67).

Although it's arguable that Tanaka teaches the nematic liquid crystal is not necessarily a chiral nematic liquid crystal (see Column 24, Line 50); Tanaka does not expressly state the nematic liquid crystal being a non-chiral nematic liquid crystal.

However, Molsen teaches making use of a non-chiral nematic liquid crystal (see Column 3, Lines 39-56). Tanaka and Molsen are analogous art, because they are from the shared inventive field of driving nematic liquid crystal display devices. Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to use Molsen's non-chiral nematic liquid crystal as Tanaka's liquid crystal medium, so as to readily optimize low operating voltages and high birefringence (see Molsen: Column 3, Lines 53-54).

Regarding claim 3, Tanaka discloses the second voltage applied in the second time period of the unit period erases an image on the panel during the second time period (see Fig. 2; Column 10, Lines 26-67).

Regarding claim 4, Tanaka discloses erasure of the image displayed on the panel is effected by driving the liquid crystal to display black on the panel (see Figure 2; Column 10, Lines 35-38).

Regarding claim 7, this claim is rejected by the reasoning applied in the above rejection of claim 4; furthermore, Tanaka discloses the second voltage is zero volts (see Fig. 2; Column 10, Lines 52-59).

Regarding claim 10, this claim is rejected by the reasoning applied in the above rejection of claim 4; furthermore, Tanaka discloses the voltage applied in the second time period of the unit period erases an image on the panel by darkening the TFT liquid crystal panel to substantially black during the second time period (see Figure 2; Column 10, Lines 35-38).

Regarding claim 12, Tanaka discloses the matrix liquid crystal panel is an active matrix liquid crystal panel (see Column 1, Lines 25-30).

Regarding claim 15, Tanaka does not expressly disclose the unit period is less than or equal to 8 milliseconds (see Figure 2; Column 10, Lines 52-59). However, the examiner takes

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official notice that it was commonly known and understood in art at the time of invention to set such a unit period to 8 milliseconds or less. Thus it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to set Tanaka's unit period to less than or equal to 8 milliseconds, so as to provide quick enough response times than display viewing is made comfortable for users.

Regarding claim 21, Tanaka discloses the liquid crystal display device is a TFT liquid crystal display device (see Column 1, Lines 10-41).

Regarding claim 22, this claim is rejected by the reasoning applied in the above rejection of claim 20; furthermore, Tanaka discloses an image display method for a liquid crystal display device including a matrix liquid crystal panel using a nematic liquid crystal, consisting of the steps of: applying a first absolute voltage [Fig. 2, 202] corresponding to image data to the liquid crystal during a first time period [i.e. one signal period] a unit period [Fig.2;  $t_1$ ,  $t_0$ ,  $t_1$ ]; and applying second absolute voltage [Fig.2; 201] having a predetermined potential and that does not correspond to image data to the liquid crystal in a second time zone [Fig.2;  $t_1$  - (one signal period),  $t_0$  - (one signal period),  $t_1$  - (one signal period)] different from the first time zone in the unit period (see Column 10, Lines 26-67).

Regarding claim 23, this claim is rejected by the reasoning applied in the above rejection of claims 20 and 22 (see Column 10, Lines 26-67).



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Regarding claim 24, Tanaka discloses the first absolute voltage consists of a first positive voltage and a first negative voltage and the sum of the first positive voltage and the first negative voltage in the unit period is zero volts (see Fig. 2; Column 10, Lines 26-67).

Regarding claim 25, Tanaka discloses the level corresponding to the second voltage is white or black (see Figure 2; Column 10, Lines 35-38).

Regarding claim 26, this claim is rejected by the reasoning applied in the above rejection of claims 20, 22, and 24.

Regarding claim 27, Tanaka discloses the second absolute voltage applied in the second time period of the unit period erases on image on the panel during the second time period (see Figure 2; Column 10, Lines 35-38).

Regarding claim 28, Tanaka discloses erasure of the image displayed on the panel is effected by driving the liquid crystal to display black on the panel (see Figure 2; Column 10, Lines 35-38).

Regarding claim 29, this claim is rejected by the reasoning applied in the above rejection of claim 4; furthermore, Tanaka discloses the liquid crystal display device is normally black and the second absolute voltage is zero volts (see Fig. 2; Column 10, Lines 52-59).

Regarding claim 30, Tanaka discloses the liquid crystal display device is a TFT liquid crystal display device including a plurality of pixels (see Column 1, Lines 10-41).

Regarding claim 31, Tanaka discloses the level corresponding to the second absolute voltage is white or black (see Figure 2; Column 10, Lines 35-38).

Regarding claim 32, Tanaka discloses the nematic liquid crystal is a twisted nematic liquid crystal (see Column 24, Line 50).

Regarding claim 33, Tanaka discloses the nematic liquid crystal is a twisted nematic liquid crystal (see Column 24, Line 50).

Regarding claim 34, Tanaka discloses the nematic liquid crystal is a twisted nematic liquid crystal (see Column 24, Line 50).

Regarding claim 35, Tanaka discloses the nematic liquid crystal is a twisted nematic liquid crystal (see Column 24, Line 50).

#### ***Response to Arguments***

12. Applicant's arguments filed 12 December 2005 have been fully considered but they are not persuasive. The applicant contends support for claim 17's subject matter of the second time period having a greater duration than the first time period, "can be found in Figure 1 of the

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present application in which the first time period in which 'V1' and '-V1' is less than the time period in which '0V' is applied" (see the last paragraph on page 8 of the Amendment filed 12 December 2005). However, the examiner respectfully disagrees. Nowhere in the written disclosure are the two time period durations ever explicitly compared. None of the provided illustrations (including Figure 1) are ever acknowledged as being drawn to scale. Furthermore, Figure 1 neglects to anywhere visually distinguish a "first time period duration" from a "second time period duration." Due to all these commingling factors, one having ordinary skill in the art would have no reasonable way of necessarily deducing that the instant invention is limited to the second time period having a greater duration than the first time period, as claimed.

The applicant further contends, "One of ordinary skill in the art would clearly understand that Figure 2 in application Serial No. 09/801,098 is a duplicate of Figure 1 and was submitted in error since there is no disclosure in this application which supports Figure 2 as being 'prior art'" (see the second paragraph on page 10 of the Amendment filed 12 December 2005). However, again the examiner must respectfully disagree. Figure 2 is clearly labeled as "Prior Art" in Serial No. 09/801,098 (as well as Patent Application Publication US 2001/0052885 A1, published 20 December 2001). While the applicant may argue now in retrospect that the illustrated waveforms of Figure 2 were submitted in error; such arguments are going to hold little sway over anyone else skilled in the art, who upon seeing published Figure 2 labeled as "Prior Art" is going to naturally and immediately assume such a "Prior Art" label is accurate. If Figure 2 was indeed erroneously submitted as prior art, the examiner can appreciate the Applicant's dilemma of now sculpting distinguishing claim language. However, the examiner cannot simply ignore that fact that Figure 2 is on the official patent record as constituting "Prior Art."

The applicant also contends, "The presently claimed invention is clearly patentably distinguishable over Tanaka et al [US 5,594,464] since it requires that a voltage be applied to bring about Frederick's transition before any voltage corresponding to image data is applied" (see the second paragraph on page 11 of the Amendment filed 12 December 2005). However, once again the examiner must respectfully disagree -- mainly because this line of argument would appear to be a moot point. In particular, the examiner notes that not only are the pending claims silent on the subject matter of bringing about "Frederick's transition," but the entire instant application is devoid of any references to "Frederick's transition" at all.

13. Applicant's arguments with respect to claims 3, 4, 7, 10, 12, 15, and 20-35 have been considered but are moot in view of the new ground(s) of rejection.

By such reasoning, rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mori et al (US 6,683,594 B1) and Kumar et al (US 5,949,508 A) are cited to further evidence the state of the art pertaining to nematic liquid crystal display devices.

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The applicant is hereby notified that the examiner's art unit has recently changed from Art Unit 2673 to Art Unit 2629, please direct all future correspondence accordingly. Thank you.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jeff Piziali  
24 November 2006